IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

TELCORDIA TECHNOLOGIES, INC., Plaintiff/Counterclaim Defendant, v. LUCENT TECHNOLOGIES, INC., Defendant/Counterclaim Plaintiff.	)	C.A. No. 04-875-GMS
TELCORDIA TECHNOLOGIES, INC., Plaintiff/Counterclaim Defendant, v. CISCO SYSTEMS, INC., Defendant/Counterclaim Plaintiff.	)	C.A. No. 04-876-GMS

DEFENDANTS' OPENING BRIEF
IN SUPPORT OF MOTION FOR SUMMARY JUDGMENT OF INVALIDITY
OF U. S. PATENT NO. 4,893,306 BASED ON BEST MODE VIOLATION

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I.

NATURE AND STAGE OF THE PROCEEDINGS

Telcordia filed these patent infringement lawsuits against Cisco and Lucent (collectively, "Defendants") in July 2004. In both litigations, Telcordia is asserting U.S. Patents Nos. 4,893,306 ("the '306 patent"), RE 36,633 ("the '633 patent"), and 4,835,763 ("the '763 patent"). A Claim Construction hearing was held on May 3, 2006, and the Court issued its Claim Construction Order on June 22, 2006. D.I. 179.[1] Fact and expert discovery closed on May 24, 2006 and August 7, 2006, respectively. The Court granted Defendants' request to bring this motion on September 20, 2006. D.I. 236.

II.

INTRODUCTION

The best mode violation in this case is unusually suitable for summary judgment because a named inventor, Dr. Jonathan Chao, explicitly admitted that he had a best mode of practicing the claimed invention at the time the '306 patent was filed and that his best mode is not disclosed in the '306 patent.[2] Dr. Chao's only explanation is that the failure to disclose his best mode was a "mistake." This claim is of no legal consequence: even an accidental failure to disclose the best mode results in the invalidation of a patent. Simply put, the quid pro quo for the powerful monopoly right granted by a patent is the disclosure of the inventor's best way of implementing the claimed invention. The failure to disclose the best mode is a fatal breach of the patent bargain, even if unintended.

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1 The D.I. numbers cited herein are in C.A. No. 04-876-GMS.

2 The fact that there were multiple inventors is irrelevant. Nondisclosure of any inventor's best mode is violation of the best mode requirement. *Pannu v. Iolab Corp.*, 155 F.3d 1344, 1350 n.5 (Fed. Cir. 1998) ("Best mode issues can arise if any inventor fails to disclose the best mode known to him or her.").

The '306 patent describes and claims a data transmission system called Dynamic Time Division Multiplexing ("DTDM").[3] The DTDM system allows multiple data sources to transmit data over a common transport stream consisting of a train of frames that each receive a single packet. At the heart of each of the asserted claims, and the functionality of the DTDM system, is the filling of frames after it is determined that they are "available" and "empty." Ex. 1 ('306 patent) at claims 1, 3 and 4.

Dr. Chao's best mode of practicing the claimed invention goes directly to this requirement. Dr. Chao developed a framing chip (also referred to as a "framer" or "framer unit") that optimizes the filling of empty available frames.

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To achieve this "peek-ahead," Dr. Chao developed circuitry in which the parallel data out is taken ***before*** the delay unit. Dr. Chao explained that

The '306 patent does not disclose Dr. Chao's best mode circuitry. By Dr. Chao's own admission, the '306 patent discloses the exact opposite: circuitry in which the parallel data out is taken ***after*** the delay unit.

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[3] The functionality of the DTDM system described and claimed in the '306 patent is discussed in detail in Defendant's Opening Brief in Support of the Motion for Summary Judgment of Non-Infringement of U.S. Patent No. 4,893,306. D.I. 239. That discussion is not repeated here.

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In sum, the '306 patent is invalid due to a classic best mode violation. Where, as here, a named inventor admits to that violation, summary judgment of invalidity should be granted.

III.

STATEMENT OF FACTS

The pertinent facts are included in the Argument sections, as appropriate.

IV.

SUMMARY JUDGMENT OF INVALIDITY SHOULD BE GRANTED BECAUSE THE NAMED INVENTOR ADMITTED TO A BEST MODE VIOLATION

Compliance with the best mode requirement is a question of fact involving the subjective belief of the inventor. *United States Gypsum Co. v. National Gypsum Co.*, 74 F.3d 1209, 1212-13 (Fed. Cir. 1996). Where the inventor's subjective beliefs concerning the best mode are undisputed and where the inventor admits to a best mode violation, summary judgment of invalidity is properly granted. *Id.* Simply put, if the inventor states under oath that he had a best mode of practicing his invention and that his best mode is not disclosed, a conclusion that the best mode requirement has not been met follows as a matter of law and logic. Indeed, the Federal Circuit has found a best mode violation as a matter of law in a variety of procedural contexts. *Nobelpharma v. Implant Innovations Inc.*, 141 F.3d 1059, 1064 (Fed. Cir. 1998) (affirming grant of JMOL); *U.S. Gypsum*, 74 F.3d at 1212-13 (affirming summary judgment grant); *Dana Corp. v. IPC Ltd.*, 860 F.2d 415 (Fed. Cir. 1988) (overturning jury verdict).

The best mode legal test has two prongs. "First, it must be determined whether, at the time the patent application was filed, the inventor had a best mode of practicing the claimed invention." *U.S. Gypsum*, 74 F.3d at 1212. "Second, if the inventor had a best mode of practicing the claimed invention, it must be determined whether the specification adequately disclosed what the inventor contemplated as the best mode so that those having ordinary skill in the art could practice it." *Id.*

As demonstrated below, each prong is satisfied here.

A. The First Prong Is Satisfied: Named Inventor Chao Had A Best Mode Of Practicing The Claimed Invention

The first prong of the best mode test is satisfied beyond legitimate dispute

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1. Dr. Chao Developed An "Alternative" Framer Chip That Allowed The System To Determine Whether Frames Were Empty And Available "On The Fly"

At his deposition, Dr. Chao testified that

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Ex. 2 (Chao Tr.) at 164:19-165:4.[5]

When Dr. Chao was asked the difference between the conventional chip and his "alternative" chip, he explained that

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[4] Conventional framing chips were well-known in the art. Dr. Chao's contribution to the claimed inventions was an "alternative" framing chip specifically designed for use in the DTDM system. This framing chip was an "important component" for the implementation of the DTDM network. Ex. 1 ('306 patent) at 16:8-11. The framing chip "performs a number of functions in the DTDM network, including generating trains of empty DTDM frames, enabling the writing of data packets into specific DTDM frames, and the examination of header data in specific DTDM frames to generate signals for the control of peripheral circuits . . . ." *Id.* at 16:12-17.

[5] For readability, the objections interposed by Telcordia's counsel are omitted in the transcript excerpts in this brief. In addition, all emphases are supplied.

Id. at 219:11-220:3.

Id. at 220:4-15; *see also id.* at 221:9-14

Let there be no mistake: Dr. Chao was explicit that he believed that

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Id. at 237:2-238:2, 267:1-11; *see also id.* at 291:21-292:1

; *id.* at

270:2-271:17, 273:18-276:12 (explaining that

Simply put, Dr. Chao's "alternative" framer design was preferred to conventional designs precisely because it provided the peek-ahead capability for adding and dropping packets on the fly.

2. Dr. Chao Conceded That His Delay Circuitry For Accomplishing The On-The-Fly Capability Was The Best Mode Of Using The Claimed Inventions

During his deposition, Dr. Chao also made clear that his "alternative" framer chip included specific delay circuitry that allowed for the "peeking" ahead that was critical to his "on-the-fly" technique. Dr. Chao's preferred framer circuit pulled the parallel data bus out ***before*** the delay unit:

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Id. at 309:10-13, 309:18-310:2, 324:6-18; *see also id.* at 314:9-10

; *id.* at 312:1-314:14.

This circuitry was the best mode of practicing the claimed inventions. Indeed, during his deposition, Dr. Chao confirmed that, at the time he filed his patent application,

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Id. at 330:5-14.

In sum, Dr. Chao's testimony establishes that he believed that

3. Dr. Chao's Testimony Confirms That His "On-The-Fly" Technique Is The Best Mode Of Carrying Out The ***Claimed Inventions***

To establish a best mode violation, the preferred technique must be for carrying out the *claimed invention*. *U.S. Gypsum*, 74 F.3d at 1212. This "claimed invention" requirement has been found satisfied in a host of different ways. It has been found satisfied when patents do not adequately disclose a preferred embodiment of the claimed invention. *See Northern Telecom Inc. v. Datapoint Corp.*, 908 F.2d 931, 940-41 (Fed. Cir. 1990); *Chemcast Corp. v. Arco Indus. Corp.*, 913 F.2d 923, 928-30 (Fed. Cir. 1990); *U.S. Gypsum*, 74 F.3d at 1213-14. And, it has been found satisfied when the patentee failed to disclose aspects of making or using the claimed invention and the undisclosed matter materially affected the properties of the claimed invention. *See Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1536-37 (Fed. Cir. 1987); *Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059, 1064-65 (Fed. Cir. 1998); *Dana*

Corp. v. IPC Ltd. P'ship, 860 F.2d 415, 419-20 (Fed. Cir. 1988); *Great Northern Corp. v. Henry Molded Prods., Inc.*, 94 F.3d 1569, 1571-73 (Fed. Cir. 1996).

The "claimed invention" requirement is easily satisfied here. The "on-the-fly" technique is used to determine whether an incoming DTDM frame is empty and available, an express requirement of the claims. Each of the asserted claims (claims 1, 3 and 4) requires placing packets into frames that are determined to be empty and available. Specifically, claim 1 requires the "***filling*** *the empty payload fields*...such that data in packetized format from any of said sources is written into any ***available empty*** payload field." Ex. 1 ('306 patent) at claim 1. Claim 3 requires "inserting said packets...into any available empty payload field." *Id.* at claim 3. Claim 4 requires "inserting each of said packets...into any empty payload field of any of said frames available to said inserting means." *Id.* at claim 4.

Indeed, the '306 patent makes clear that the determination of whether a frame is empty is a ***necessary condition*** for the patented system to work:

> However, a framer unit 53 ***will not read the data from the FIFO 57 unless two conditions are met.*** One is that the "packet-ready" pulse signal from the packetizer 55 is asserted, indicating one packet is completely stored in the FIFO. The ***other condition*** is that the incoming DTDM frame on the serial data input (sdi) of the framer 53 is not already occupied by a valid packet, i.e., the ***incoming DTDM frame is empty.*** Thus, an empty or "emp" signal is transmitted from the framer 53.

Ex. 1 ('306 patent) at 9:34-49. Thus, the best mode of determining whether a frame is empty and available for a packet to be inserted is the best mode for carrying out the *claimed invention*.

It also is undeniable that the "on-the-fly" technique for implementing the claimed invention materially affected the performance of the claimed inventions.

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Id. at 313:10-314:2; *see also id.* at 291:21-292:1

id. at 308:10-12

In sum, the "on-the-fly" technique in Dr. Chao's "alternative" framer chip, implemented through specific circuitry that would take the parallel data out ***before*** the delay, was Dr. Chao's best way of using the claimed inventions.

B. The Second Prong Is Satisfied: The '306 Patent Does Not Disclose The Best Mode

The second prong of the best mode test is also satisfied beyond dispute. Dr. Chao readily conceded that his "on-the-fly" technique for implementing DTDM was not disclosed in the '306 patent. The '306 patent shows the parallel data out being pulled out of the bit stream *after* the delay unit which is different from his best mode design. *See* Ex. 3 (Acampora Opening Invalidity Report) at 61-65; *see also* Ex. 4 (Acampora Reply Invalidity Report). A side-by-side comparison of the circuitry of Dr. Chao's best mode design and that in the '306 patent leaves no doubt:

'306 Patent

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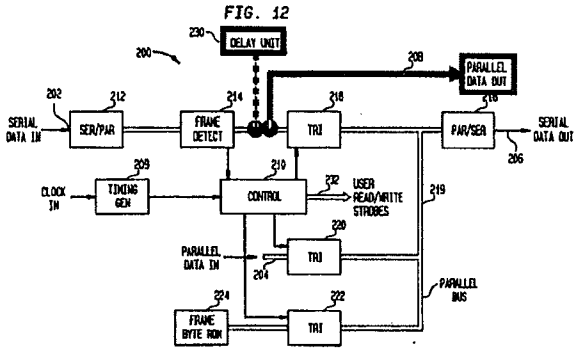

Compare Ex. 5 (April 1987 Technical Memorandum) at Figure 9 *with* Ex. 1 ('306 patent) at Figure 12; *see also* Ex. 6 (*Design Architectures of a DTDM Packet Assembler and Packet Multiplexer*, IEEE MONTECH 1987); Ex. 7 (*A 140 Mbit/s CMOS LSI Framer Chip for a Broad-Band ISDN LAN*, IEEE Solid-State Circuits 1988).[6] As can clearly be seen,

Although Dr. Chao clearly believed that his circuit design for creating an on-the-fly technique was his best way of implementing the inventions claimed in the '306 patent, he

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[6] The *A 140 Mbit/s CMOS LSI Framer Chip for a Broad-Band ISDN LAN* manuscript was published in IEEE Solid-State Circuits in 1988 but was received by the publisher on July 22, 1987. Ex. 7 (*A 140 Mbit/s CMOS LSI Framer Chip for a Broad-Band ISDN LAN*) at BEL 134255.

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[7] Figure 12 is the only diagram in the '306 patent that depicts the framing circuit described and claimed therein.

admitted that it was not disclosed in that patent and that, as shown above, the patent wrongly instructed those skilled in the art to pull the parallel data out ***after*** the delay unit:

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Ex. 2 (Chao Tr.) at 330:5-21; 332:3-18.

Dr. Chao also agreed that by following the disclosure in the '306 patent, one skilled in the art would be ***unable*** to practice his best mode:

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Id. at 339:5-21, 348:13-349:6.

C. A Best Mode Violation Resulting From A Mistake Is Still A Best Mode Violation

Dr. Chao's explanation for his best mode violation is simply that it was a mistake. It is clear, however, that even an accidental failure to disclose the best mode invalidates a patent.[8] *See, e.g., Graco, Inc. v. Binks Mfg. Co.*, 60 F.3d 785, 789 (Fed. Cir. 1995) (noting that argument that best mode violation requires intentional concealment was "disposed of easily"); *U.S. Gypsum*, 74 F.3d at 1215-16 (finding that "failure to find intentional concealment does not preclude a finding that the best mode requirement has been violated"). Simply put, even an accidental failure to disclose the best mode invalidates the patent.

[8] Indeed, a finding of *intentional* concealment of the best mode supports unenforceability for inequitable conduct. *See Consolidated Aluminum Corp. v. Foseco Int'l Ltd.*, 910 F.2d 804 (Fed. Cir. 1990).

V.

CONCLUSION

For the reasons set forth above, Defendants' motion for summary judgment that the '306 patent is invalid due to a best mode violation should be granted.

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